DATA WAREHOUSE

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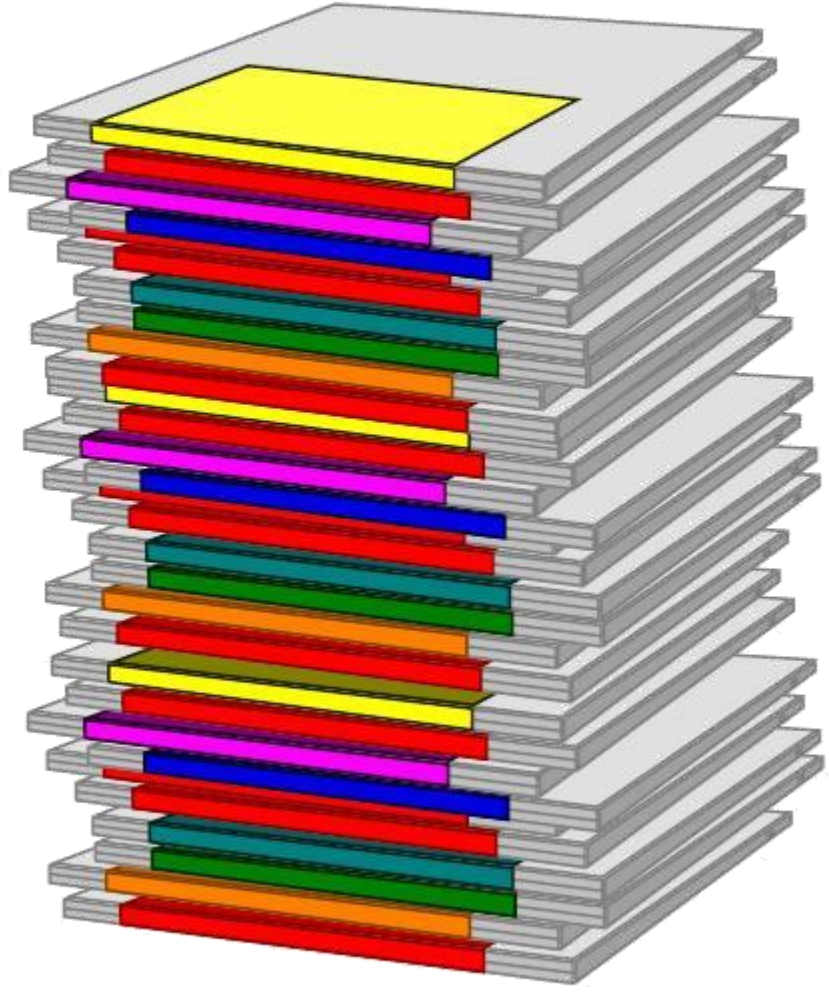
What is a Data Warehouse?

A single, complete and consistent store of data obtained from a variety of different sources made available to end users in a what they can understand and use in a business context.



What is Data Warehousing?

A process of **transforming data into information** and making it available to users in a timely enough manner to make a difference

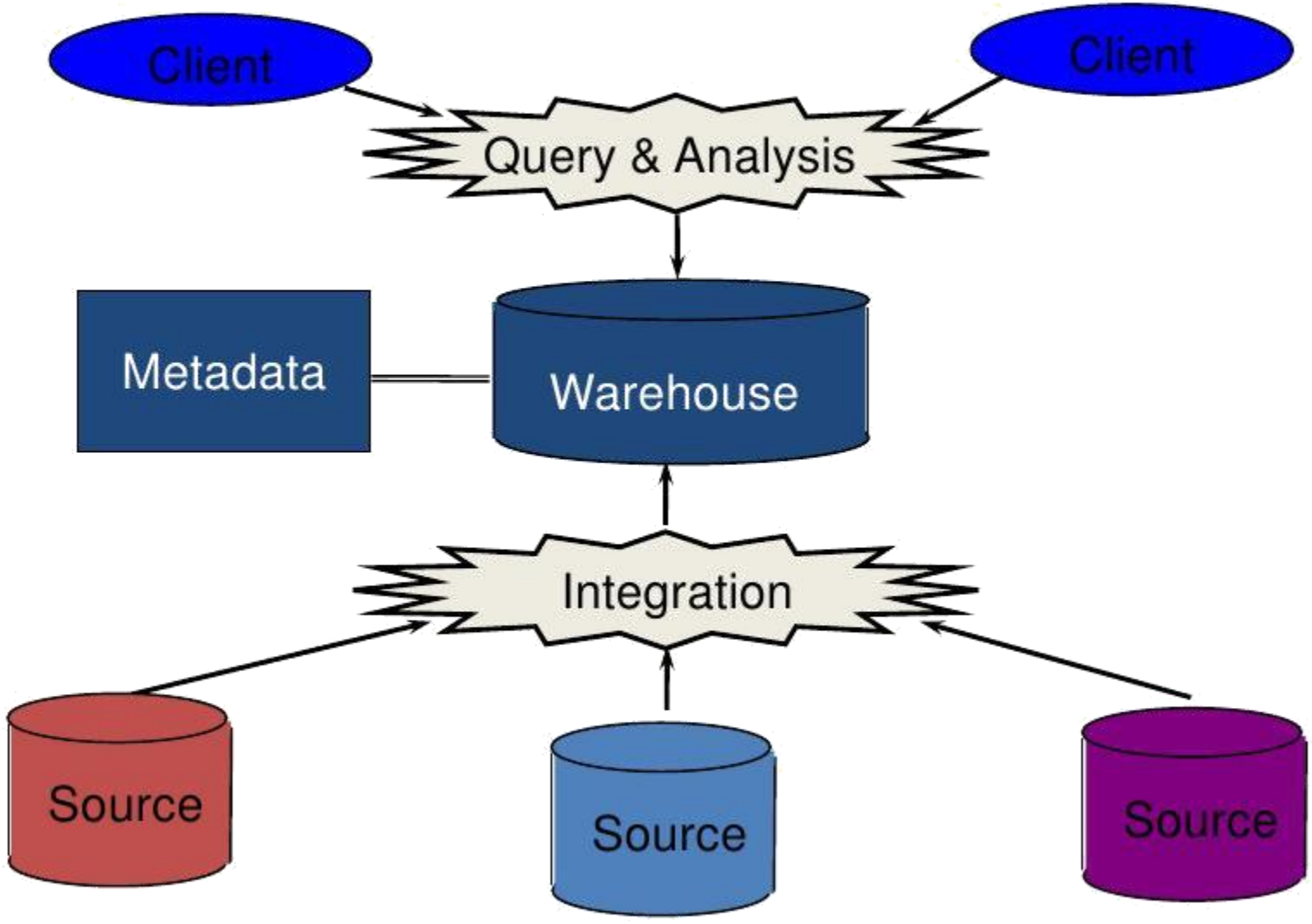
Data Warehousing -- a process

- It is a relational or multidimensional database management system designed to support management decision making.
- A data warehousing is a copy of transaction data specifically structured for querying and reporting.
- Technique for assembling and managing data from various sources for the purpose of answering business questions. Thus making decisions that were not previous possible

History of data warehousing

- The concept of data warehousing dates back to the late 1980s when IBM researchers Barry Devlin and Paul Murphy developed the "business data warehouse".
- 1960s - General Mills and Dartmouth College, in a joint research project, develop the terms *dimensions* and *facts*.
- 1970s - ACNielsen and IRI provide dimensional data marts for retail sales.
- 1983 – Tera data introduces a database management system specifically designed for decision support.
- 1988 - Barry Devlin and Paul Murphy publish the article *An architecture for a business and information systems* in *IBM Systems Journal* where they introduce the term "business data warehouse".

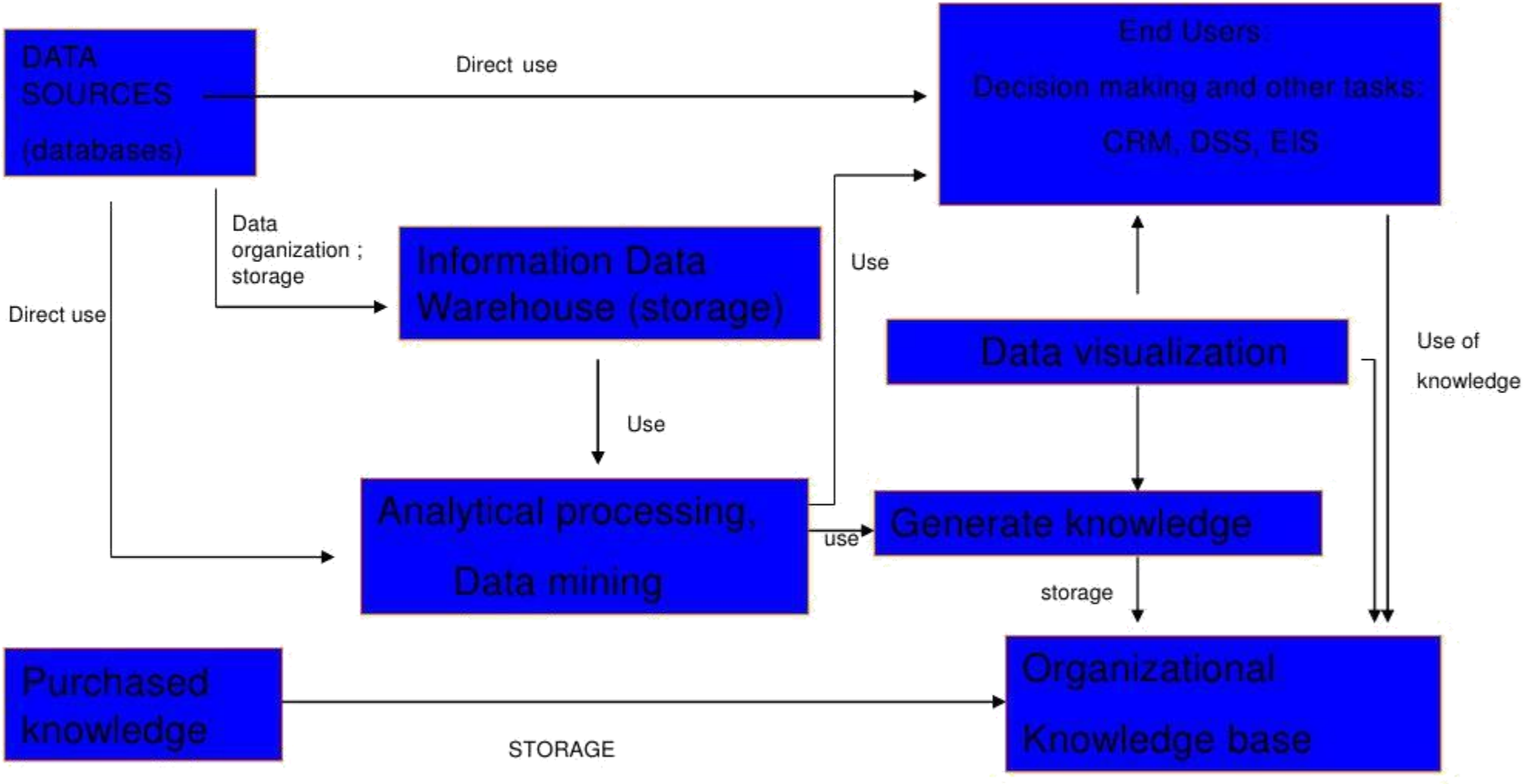
Data Warehouse Architecture



Disadvantages of data warehouses

- Data warehouses are not the optimal environment for unstructured data.
- Because data must be extracted, transformed and loaded into the warehouse, there is an element of latency in data warehouse data.
- Over their life, data warehouses can have high costs. Maintenance costs are high.
- Data warehouses can get outdated relatively quickly. There is a cost of delivering suboptimal information to the organization.
- There is often a fine line between data warehouses and operational systems. Duplicate, expensive functionality may be developed. Or, functionality may be developed in the data warehouse that, in retrospect, should have been developed in the operational systems and vice versa.

Data warehousing integration



Data Warehouse for Decision Support

- Putting Information technology to help the knowledge worker make faster and better decisions
- Used to manage and control business
- Data is historical or point-in-time
- Optimized for inquiry rather than update
- Use of the system is loosely defined and can be ad-hoc
- Used by managers and end-users to understand the business and make judgments


THANK
YOU